CeDER Overview

The Saskatchewan Research Council's (SRC) Centre for the Demonstration of Emissions Reductions (CeDER) is a platform that provides real-world testing, demonstration and validation of emissions measurement, reduction, capture and conversion technologies. CeDER is a low-cost, stage-gated, fee-for-service platform.

Clients may be technology providers, regulators or operators from a variety of sectors and industries looking to implement new technologies, from laboratory through to commercial scale.

CeDER offers independent, industry recognized, third-party validation that aims to accelerate the commercialization and field deployment of viable greenhouse gas (GHG) reduction technologies.

Why the Market Needs CeDER

Government energy regulators and the Canadian public are demanding substantial GHG emission reductions from industry in the next five years. For Canada to meet these targets, stakeholders need the following, all of which are facilitated and/or advanced by CeDER:

- *Industry:* effective and scalable new commercial technologies that can reduce their emissions in line with emerging regulations.
- *Technology developers:* an accelerated route to validate and commercialize their emissions reduction technologies.
- *Government regulators:* efficient and cost-effective technologies available for compliance assurance and industry adoption.

At present, no other technology validation and emissions testing facility has the mobility of the CeDER program and the established processes required for success in place.

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CeDER Capabilities and Services

The CeDER platform consists of a range of services and capabilities. These provide access to:

- SRC's expertise across the mining, energy, agriculture, biotechnology and environmental sectors, particularly in oil and gas
- Instrumented mobile facilities for independent third-party technology demonstration and performance validation, air quality monitoring and emissions testing
- GHG verification and life cycle assessment
- SRC's technology assessment process which includes technoeconomic assessments, real-world technology performance and emissions testing, and our independent third-party validation protocol

CeDER can test and validate technologies geared to measurement, reduction, capture and conversion for low and high-volume sources. While the focus is on methane, CeDER can test, verify and demonstrate:

- Methane (CH_4)
- Carbon dioxide (CO_2)
- Hydrogen sulfide (H_2S)
- Mono-nitrogen oxides (NOx)
- Sulfur oxides (SOx)

Mobile Technology Validation

Our CeDER mobile facilities are modular, meaning that the instrumentation and equipment required for each project can be mobilized as needed. Our mobile capability has been designed to be flexible and to provide a wide range of testing for diverse technology scenarios. Wireless data acquisition systems allow us to use industry standard instrumentation on-site.

CeDER's trailers can be deployed to test technologies in the field at full- or pre-commercial scales and can be moved easily between locations. While our home base is in Saskatchewan, we operate in field locations across Canada.

Validation Protocol for Testing Technologies

SRC uses its own standardized validation protocol to ensure quality, transparency, and consistency of the validation process for all clients.

Database of GHG Emissions Reduction Technologies

SRC has developed a database with information on nearly 400 commercial and emerging GHG emission reduction technologies tailored to meet industry needs.

CeDER is equipped to test and validate most types of emissions reduction systems, including:

Vapour Recovery/ Treatment

Vapour Recovery Unit
Vapour Recovery Tower

Flare/Combust

Utility and Smokeless Flares
Incinerators

Capture/Convert

CNG/LNG/NGL
GTL
Gas to Power

Monitoring Systems

Static and mobile systems
UAV systems
LDAR programs